

**LAKE MEAD NATIONAL RECREATION AREA**

**ENVIRONMENTAL ASSESSMENT**

**for the**

**Realignment of South Telephone Cove Road**

**Mohave County, Arizona**

**February 2003**

**US Department of the Interior, National Park Service**

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## **SECTION I: PURPOSE OF AND NEED FOR ACTION**

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### **Introduction**

The National Park Service (NPS) is considering realigning the South Telephone Cove Road, within the Katherine development area of Lake Mohave, at Lake Mead National Recreation Area (NRA). Lake Mead NRA is in southeastern Nevada and northwestern Arizona and encompasses lands around Lake Mead and Lake Mohave (Figure 1). South Telephone Cove Road is an unpaved approved road located just north of Katherine Landing, off the Princess Cove road (Figures 2 and 3). The road leads to the facilities at South Telephone Cove. Portions of the road are situated in a sandy wash. The National Park Service proposes to realign the road to improve access, decrease the potential for accidents, and increase the efficiency and longevity of maintenance activities on the road.

This section describes the purpose of and need for action and provides an overview of the project area and the current road conditions.

The environmental assessment (EA) evaluates the no action alternative and two action alternatives to realign South Telephone Cove Road. This document also includes discussions of alternatives that have been ruled out and justifications for their elimination.

### **Purpose and Need**

The primary purpose of this project is to improve the South Telephone Cove Road to enhance safety for users by improving the quality and longevity of the road, while protecting natural and cultural resources. An additional purpose of the project is to reduce erosion in the wash by moving portions of the roadway out of the drainage area.

The existing unpaved road to South Telephone Cove is situated in an active, sandy wash. Consequently, travel is difficult and visitors periodically get stuck in the sandy segments of the road. This contributes to unsafe and difficult travel for visitors and park employees. Inclement weather, runoff, and erosion can add to the unsafe conditions of the road. Maintenance occurs periodically on the roadway, but due to the sandy roadbed, occasional washouts, ongoing erosion, and high visitor use, the road is extremely difficult to maintain.

Several accidents have been reported on the road, and the road is subject to frequent visitor complaints. Therefore, the National Park Service is considering options for improving the roadway.

### **Background**

Picnic facilities and access to Lake Mohave are limited due to the rugged terrain that surrounds the lake. There are limited access points for two-wheel drive vehicles between Hoover Dam to Davis Dam. Four of the primary recreational use areas for visitors are located on the Arizona side of Lake Mohave and include Willow Beach, on the northern portion of Lake Mohave; and Princess Cove, South Telephone Cove, and Katherine Landing on the southern portion of Lake Mohave. Since picnic facilities and access to

Lake Mohave are limited, it is important to keep the available access points open to users during all times of the year.

South Telephone Cove caters mostly to families that seek leisure at the shoreline and picnic area. The shoreline at South Telephone Cove offers an ideal and safe place for persons to recreate because the beach surface is sandy, the slope into the water is very gradual, and boat and personal watercraft launching is not permitted at this area. The amenities at South Telephone Cove include a picnic area, with tables, grills and shade structures, two restrooms, trash receptacles, and paved parking. The picnic area is frequently utilized because the area is large enough to accommodate many families simultaneously. Two of the picnic sites are handicapped accessible.

The existing South Telephone Cove Road is located in a sandy wash area, and contains a sharp curve near the edge of the side of the wash wall, which temporarily obscures the vision of the driver. Vehicle use and wind erosion also generate dust, which can create a visual obstruction to the driver. The sandy consistency of the road has a tendency to become washed out during rainstorms, and consequently accelerates the erosion of the road. Coincidentally, the poor condition of the road has contributed to numerous fender benders, visitors getting stuck in the sand, and overall road and soil degradation. Routine maintenance of the road cannot keep up with the constant deterioration caused by overuse and the periodic rainfalls leading to washouts, a washboard surface, and erosion.

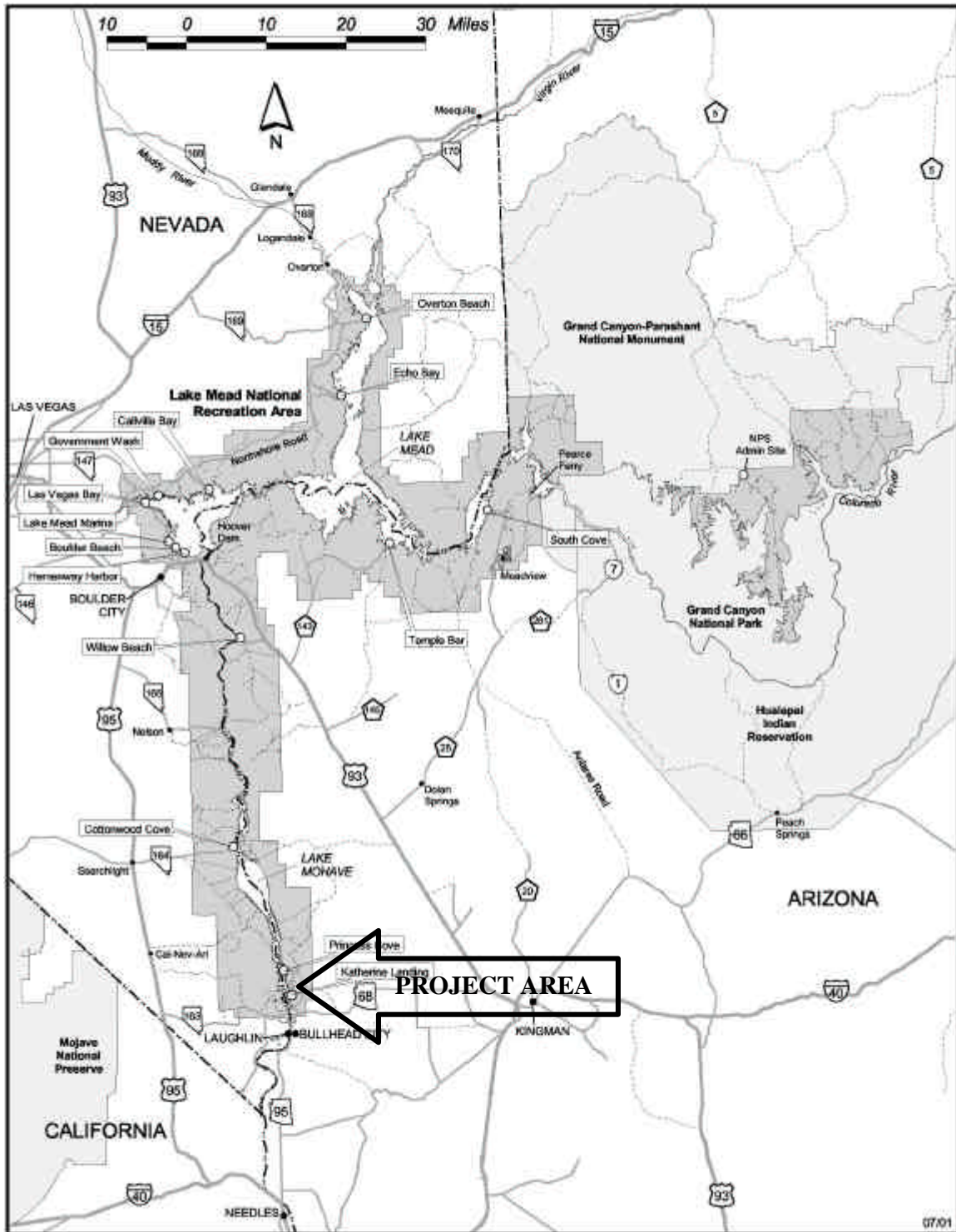
During the summer months, when the area is in peak demand and torrential rains are most prevalent, the surface of the access road becomes heavily wash boarded. Heavy rains tend to wash away the surface of the road, causing it to become inaccessible to visitors until maintenance crews can grade the road. Even after grading, the problems with washboarding continue to occur during peak visitation months.

This environmental assessment considers options, including realigning the road to a stable location above the wash, to allow safe access to South Telephone Cove.

**Figure 1. Regional Map.**  
**Lake Mead National Recreation Area**

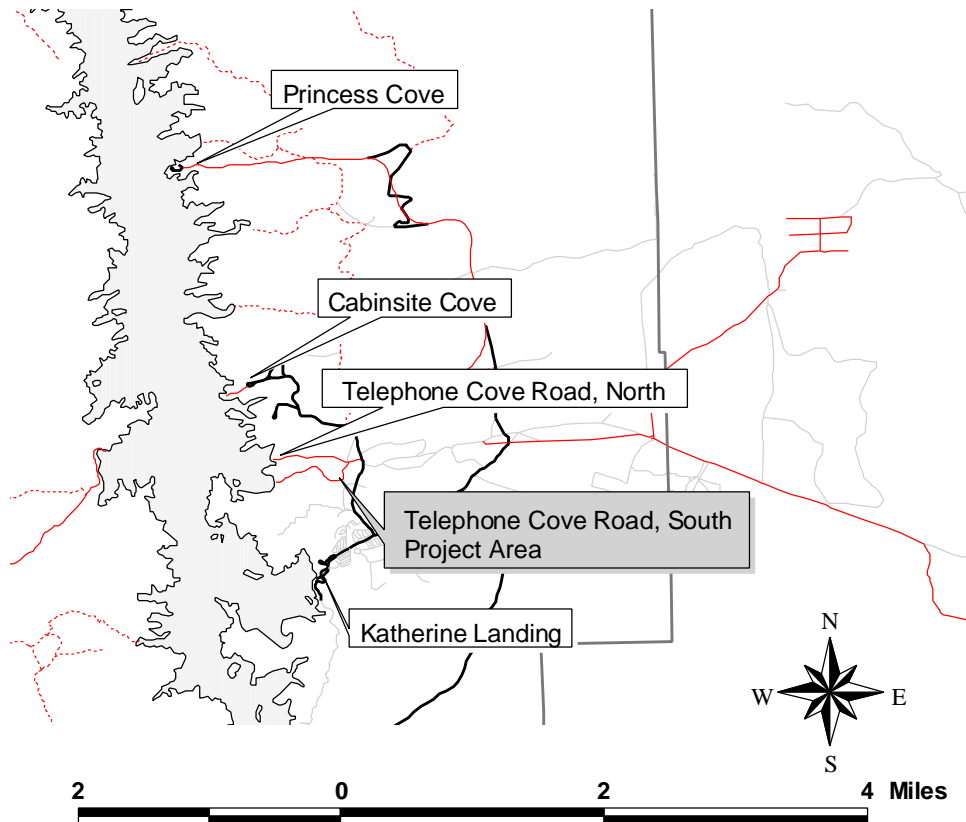


**Figure 2. Area Map.**  
**Lake Mead National Recreation Area**



**Figure 3. Project Location**  
**South Telephone Cove Road**

## Telephone Cove Road, South Project Area



## **ENVIRONMENTAL ASSESSMENT**

This EA analyzes two action alternatives and the no-action alternative and their impacts on the human and natural environment. It outlines project alternatives, describes existing conditions in the project area, and analyzes the effects of each project alternative on the environment. This EA has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and regulations of the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] 1508.9) and NPS Director's Order-12, *Conservation Planning, Environmental Impact Analysis, and Decision Making*.

## **RELATED LAWS/ LEGISLATION AND OTHER PLANNING AND MANAGEMENT DOCUMENTS**

The enabling legislation for Lake Mead NRA (PL 88-639), established the recreation area “for the general purposes of public recreation, benefit, and use, and in a manner that will preserve, develop and enhance, so far as practicable, the recreation potential, and in a manner that will preserve the scenic, historic, scientific, and other important features of the area, consistent with applicable reservations and limitations relating to such area and with other authorized uses of the lands and properties within such area.” The Secretary was authorized, under the Act, to provide for general recreation use. General recreation use was defined within Section 4(b) of this legislation, and included bathing, boating, camping, and picnicking.

The 1986 *General Management Plan* provided the overall management direction for Lake Mead NRA. It established management zones to accommodate increasing visitor use while protecting park resources. A development zone was established at Katherine Landing, which included areas north to Princess Cove. Within this proposed action of the General Management Plan, a swim area was proposed for the South Telephone Cove area. In addition, flood mitigation was proposed that included improved access roads.

The 1998 *Lake Mead NRA Strategic Plan* established goals relating to resource protection, public enjoyment, and visitor satisfaction. The 2001 *Strategic Plan* has reaffirmed these goals.

In January 2003, the Lake Mead NRA *Lake Management Plan and Final Environmental Impact Statement* was released. This document considered issues related to recreational use of Lakes Mead and Mohave, including crowding, carrying capacity, zoning for a variety of recreational settings, and personal watercraft use. This document designated the Katherine Landing area as an Urban Park setting. South Telephone Cove was zoned as a day use area, designated for shoreline activities and shoreline-based water recreation.

NPS *Management Policies* (2001) require the analysis of potential effects to determine if actions would impair park resources. Under the NPS Organic Act and the General Authorities Act, as amended, the NPS may not allow park resources and values to be impaired, except as authorized specifically by Congress. The NPS must always seek ways to avoid or minimize, to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the NPS management discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the

purposes of a park, as long as the impact does not constitute impairment to the specific resources and values (Management Policies 1.4.3).

## **ISSUES AND IMPACT TOPICS**

Issues are related to potential environmental effects of project alternatives and were identified by the project interdisciplinary team. Once issues were identified, they were used to help formulate the alternatives and mitigation measures. Impact topics based on substantive issues, environmental statutes, regulations, and executive orders (EOs) were selected for detailed analysis. A summary of the impact topics and rationale for their inclusion or dismissal is given below.

### **Issues and Impact Topics Identified for Further Analysis**

The following relevant impact topics are analyzed in the EA. Whether each issue is related to taking action or no action is specified.

#### **Natural Resources**

Soils and Vegetation. Soils would be disturbed in the project area. Construction-related earthmoving activities could affect geologic processes or features or alter local topography. Heavy construction equipment could compact the soil, which could be detrimental to soil resources in the designated construction area. Road construction would permanently alter soils.

Construction activities would affect vegetation. After construction, nonnative vegetation could invade the project area. Vegetation would be permanently removed from the road realignment.

Wildlife and Wildlife Habitat. The area does not provide high quality wildlife habitat; however, small mammals, reptiles, and birds that inhabit the area could be disturbed or displaced during construction. The road realignment would permanently remove a small portion of habitat at the project site.

Special Status Species. After consulting the most recent U.S. Fish and Wildlife Service listing of threatened and endangered species (Appendix A), NPS biologists determined that there are no threatened and endangered species, potential habitat, or critical habitat in the project area. However, according to recent plant surveys (Appendix B), the area is located near sensitive plant species habitat, including habitat of the Ajo lily (*Hesperocallis undulata*), and the rush milkweed (*Asclepias subulata*).

Water Resources. Runoff and flooding could occur during construction activities, which could lead to decreased water quality in South Telephone Cove. Moving the road out of the wash could decrease runoff and erosion.

Air Quality. Construction activities could create intermittent dust that compromises air quality in the local area. Dust could temporarily decrease visibility in the project area. Exhaust from construction equipment could temporarily impact air quality in the project area.

### **Cultural Resources**

Several historic and prehistoric archeological sites have been recorded in the Katherine Landing area. One or more of the various alternatives may adversely impact these resources.

### **Noise- Soundscapes**

Construction related noise could disturb sensitive receptors near the project area.

### **Visual Resources**

Road realignment would permanently disturb the area where road construction would occur and could create a visual impact. The existing road would be rehabilitated

### **Public Safety, Visitor Use and Experience, and Recreation Area Operations**

Temporary road closures would occur during construction activities. Users of South Telephone Cove Road and North Telephone Cove Road may be temporarily prohibited from accessing the coves during construction. Less maintenance would be required on the new access road due to improved conditions and less chance of wash outs.

### **Impact Topics Considered but Dismissed from Further Consideration**

The following topics are not further addressed in this document because there are no potential effects to these resources, which are not in the project area:

- Designated ecologically significant or critical areas;
- Wild or scenic rivers;
- Wetlands;
- Floodplains;
- Designated coastal zones;
- Indian Trust Resources;
- Prime and unique agricultural lands;
- Sites on the US Department of the Interior's National Registry of Natural Landmarks; or
- Sole or principal drinking water aquifers.

In addition, there are no potential conflicts between the project and land use plans, policies, or controls (including state, local, or Native American) for the project area.

Regarding energy requirements and conservation potential, construction activities would require the increased use of energy for the construction itself and for transporting materials. However, overall, the energy from petroleum products required to implement action alternatives would be insubstantial when viewed in light of production costs and the effect of the national and worldwide petroleum reserves.

There are no potential effects to local or regional employment, occupation, income changes, or tax base as a result of this project. The project area of effect is not populated and, per EO 12898 on Environmental Justice, there are no potential effects on minorities, Native Americans, women, or the civil liberties (associated with age, race, creed, color, national origin, or sex) of any American citizen. No disproportionate high or adverse effects to minority populations or low-income populations are expected to occur as a result of implementing any alternative.

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## SECTION II: DESCRIPTION OF ALTERNATIVES

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### **Introduction**

This section describes the alternatives considered, including the No Action alternative. The alternatives described include mitigation measures and monitoring activities proposed to minimize or avoid environmental impacts. This section also includes a description of alternatives considered early in the process but later eliminated from further study; reasons for their dismissal are provided. The section concludes with a comparison of the alternatives considered.

### **Alternative A - No Action**

Under alternative A, no road realignment would occur. The road would remain in the wash in its existing alignment.

### **Alternative B – Relocate Segment of Access Road to the North**

Under alternative B, 1,500 feet of the South Telephone Cove Access Road would be relocated from its current location in the wash to a more stable ridge location north of the wash, in a previously undisturbed area (Figures 4 and 5). The roadway would be 26 feet wide, with 11-foot travel lanes and 2-foot shoulders, totaling 0.89 acres of new disturbance. The roadbed would consist of an aggregate base.

### **Alternative C- Relocate Access Road to the South**

Under alternative C, the entire South Telephone Cove Access Road would be relocated from its current location in the wash to a more stable ridge location south of the wash, utilizing portions of the existing powerline access road and a previously undisturbed area (Figures 4 and 5). This alternative was first considered in the 1986 Lake Mead NRA *General Management Plan*.

The new road would be approximately 3,168 feet long and 26 feet wide, with 11-foot travel lanes and 2-foot shoulders, totaling approximately 1.89 acres of disturbance. The roadbed would consist of an aggregate base.

### **Mitigation and Monitoring**

Mitigation measures are specific actions designed to minimize, reduce, or eliminate impacts of alternatives and to protect Lake Mead NRA resources and visitors. Monitoring activities are actions to be implemented during or following construction. The following mitigation related to road construction would be implemented under each action alternative, and are assumed in the analysis of effects for each alternative.

**Soils and Vegetation:** Road design considers the topography of the area and would serve to decrease erosion and blend in with the surrounding area. Topsoil would be salvaged from the project area and replaced in the area to promote the reestablishment of vegetation. The area would be surveyed by restoration specialists prior to construction to determine if vegetation would be salvaged from the project area. Any vegetation

Figure 4. Alternative Road Locations

# South Telephone Cove Alternative Road Locations

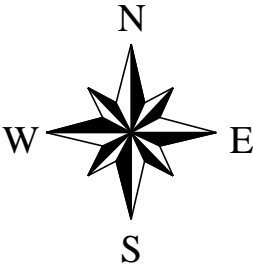
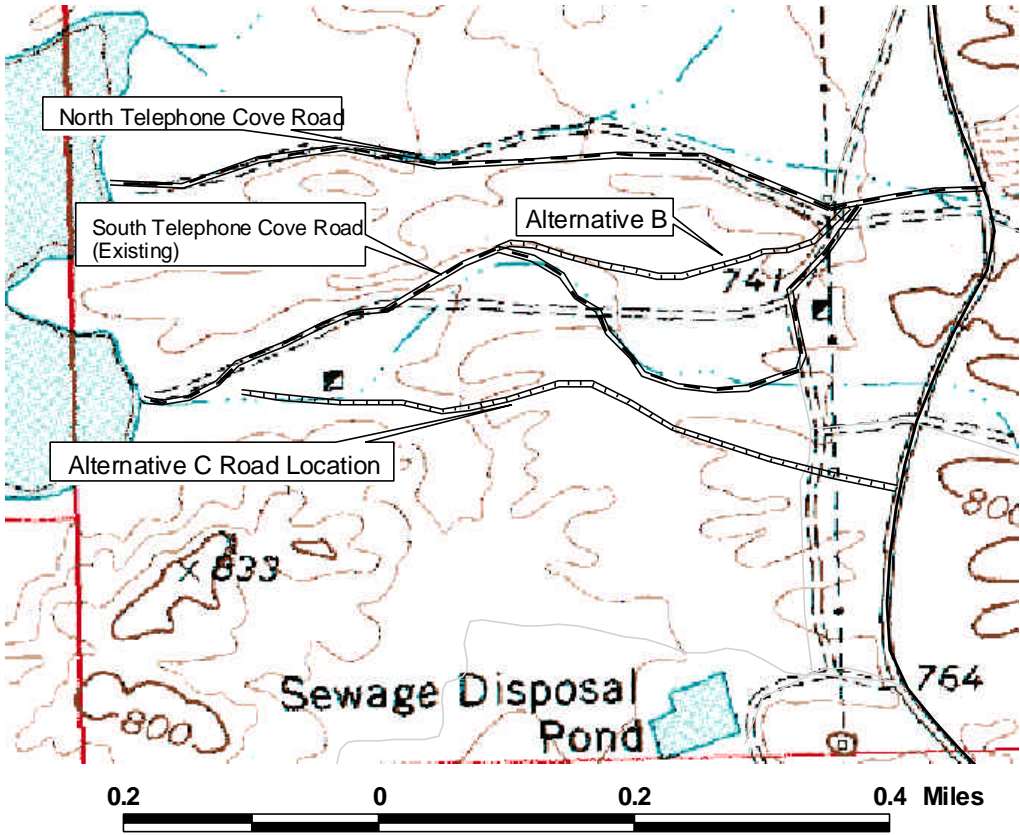
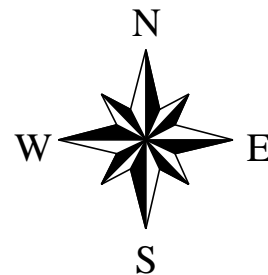
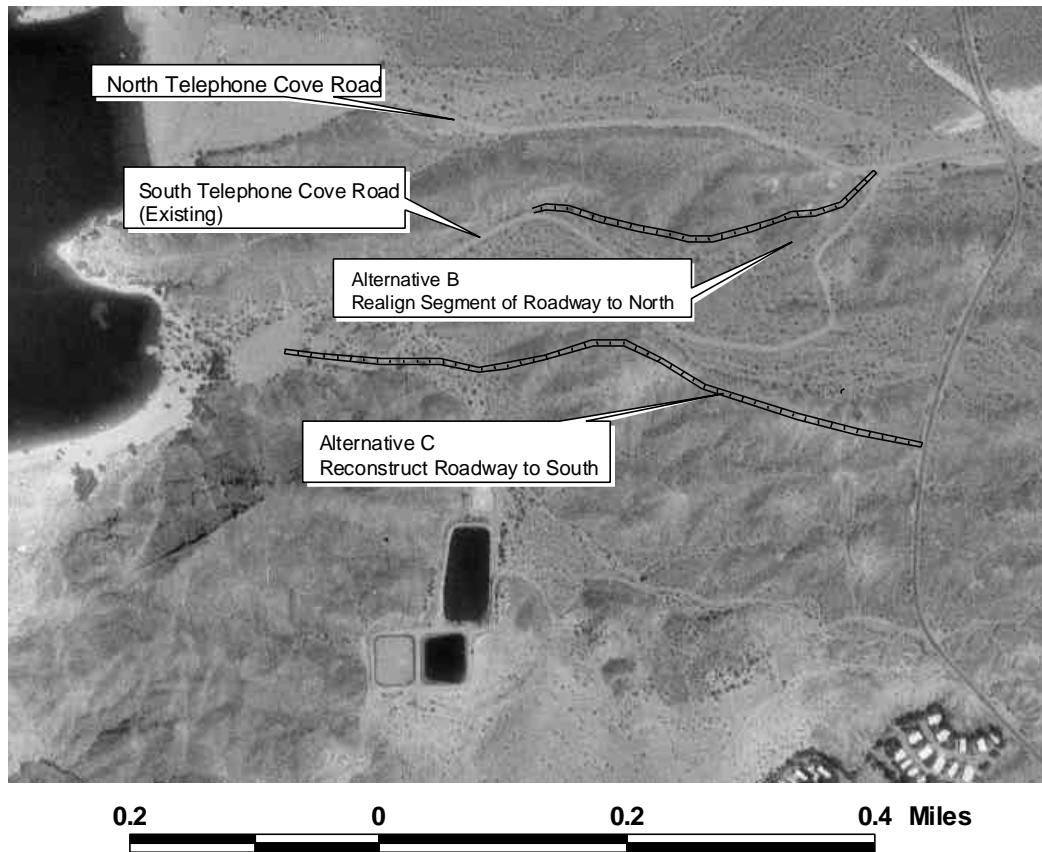


Figure 5 - Alternatives B and C

## South Telephone Cove Road Project Alternatives B and C Road Locations



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salvaged from the project area would be replaced in the area after construction. The abandoned roadway would be restored after the new road is completed. No imported topsoil or hay bales would be used during revegetation in an effort to avoid the introduction of exotic plant species.

The construction area would be monitored after the completion of the project for the presence of exotic plant species, and control strategies would be initiated if these species occur. To prevent the introduction of and minimize the spread of exotic vegetation and noxious weeds, the following measures would be implemented:

- Minimize soil disturbance;
- Pressure-wash or steam clean all construction equipment before it is brought into the recreation area;
- Limit vehicle parking to existing roads, parking lots, or the access route;
- Obtain all fill, rock, or additional topsoil from the project area;
- Initiate revegetation of all disturbed sites immediately following construction activities by spreading conserved topsoil with its associated seed bank;
- A NPS biologist would monitor all disturbed areas for two to three years following construction to identify noxious weeds or exotic vegetation. Treat areas in accordance with NPS-13, *Integrated Pest Management Guidelines*;
- Obtain cleaned riprap from outside the recreation area.

Water Resources: Best Management Practices are means of preventing or reducing nonpoint source pollution in the wash and of minimizing soil loss and sedimentation. Best Management Practices would be utilized to prevent run-off, minimize erosion, and prevent impacts to the wash, and would include some or all of the following, depending upon site specific requirements:

- Locating waste and excess excavated materials outside the wash to avoid sedimentation;
- Prior to construction, installing silt fences, straw bale barriers, temporary earthen berms, temporary water bars, or other equivalent measures, around the perimeter of the stockpiled fill material;
- Conducting regular site inspections throughout construction period to ensure that erosion-control measures were properly installed and function effectively;
- Properly storing, using, and disposing of chemicals, fuels, and other toxic materials; and
- Refueling construction equipment in upland areas only, to prevent fuel spills near water resources.

Air Quality: Dust control measures, including water sprinkling during earth-disturbing activities, would be utilized to minimize airborne particulates during construction. Low-sulfur fuel would be used where available.

Cultural Resources: In the 1970s, the Katherine area was inventoried for cultural resources and none were found in the project area (Ervin 1986). In 2001, the

management-preferred route was again inventoried for cultural resources (Svinarich 2001) and none were found in the area of potential effect (APE).

The NPS will consult with appropriate Native American groups as required by the various laws, regulations, and executive orders.

Should unknown cultural resources be uncovered during construction, work would be halted in the discovery area, the site would be secured, and the recreation area would consult according to 36 CFR 800.13 and, as appropriate, provisions of the Native American Graves Protection and Repatriation Act of 1990. In compliance with the Native American Graves Protection and Repatriation Act of 1990, the National Park Service would also notify and consult concerned tribal representatives for the proper treatment of human remains, funerary objects, and sacred objects should these be discovered during the course of the project.

Visual Resources: The road would be designed under National Park Service road standards and an attempt would be made to utilize the area topography to blend in the road with the surrounding terrain.

Visitor Use, Experience, and Public Safety: Access to South Telephone Cove would remain open during construction of the new access road. The public would be notified of activities prior to and during the construction. Barricades would be placed around the construction site and the construction and staging areas would be closed to the public.

Worker Safety: The potential for flash floods exists between July and September. If project work is to occur during these months, a safety plan for working in desert washes would be formulated.

## **ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER EVALUATION**

During the course of planning to improve access to South Telephone Cove, several other options were considered but eliminated from further evaluation. Paving the existing access road was not considered a feasible alternative due to cost considerations and continued run-off and erosion concerns because the road would remain in an active wash. Closing South Telephone Cove Access road without developing additional access was not considered a feasible alternative because South Telephone Cove provides one of the few land-based recreational access points to Lake Mohave from the Arizona side of the lake. It is a high use area, particularly during the summer months, for picnickers, swimmers, and the non-boating public. Other road alignments in the same area were considered, but road engineers determined that the most feasible options based on road standards were the two alternatives considered and fully evaluated in this document.

## **PERMIT REQUIREMENTS**

Alternatives B and C would move the roadway out of the existing wash, therefore, no permits would be required from the U.S. Army Corps of Engineers and the Arizona Division of Environmental Quality.

### **ENVIRONMENTALLY PREFERRED ALTERNATIVE**

The environmentally preferred alternative is the alternative that will promote NEPA, as expressed in Section 101 of NEPA. This alternative will satisfy the following requirements:

- Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- Assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable or unintended consequences;
- Preserve important historic, cultural, and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
- Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Alternative B is the environmentally preferable alternative because overall it would best meet the requirements in Section 101 of NEPA. It would require only a small segment of road realignment as compared with alternative C, and promote the rehabilitation of the desert wash resource, preserving an important part of the desert environment. It would provide a safe surrounding and access to the recreational resource in an environment that supports diversity and a variety of individual choice.

### **Comparison of Impacts**

Table 1 summarizes the potential long-term impacts of the proposed alternative. Short-term impacts are not included in this table, but are analyzed in the Environmental Consequences section.

**Table 1. Comparison of Long-term Impacts**

| <b>Impact Topic</b>  | <b>Alternative A –<br/>No Action</b>                | <b>Alternative B –<br/>Realign Segment of<br/>Road to the North</b> | <b>Alternative C –<br/>Reconstruction to<br/>the South</b> |
|--|---|---|--|
| Soils and Vegetation   | Long-term minor<br>adverse impacts                  | Minor adverse impacts.<br>Some beneficial effects                   | Minor to moderate<br>adverse impacts                       |
| Wildlife and Wildlife<br>Habitat   | No effect   | No long-term effect   | Negligible to minor<br>adverse impacts                     |
| Water Resources  | Long-term<br>negligible to minor<br>adverse impacts | Some beneficial effects   | Some beneficial<br>effects                                 |
| Air Quality  | No effect   | Long-term minor<br>adverse impacts                                  | Minor adverse<br>impacts                                   |
| Cultural Resources   | No effect   | No effect   | No effect  |
| Soundscapes  | Long-term<br>negligible to minor<br>adverse impacts | Long-term negligible to<br>minor impacts                            | Negligible to minor<br>adverse impacts                     |
| Visual Resources   | No effect   | Long-term moderate<br>adverse impacts                               | Long-term moderate<br>adverse impacts                      |
| Public Safety, Visitor<br>Use and Experience,<br>and Recreation Area<br>Operations | Minor to moderate<br>adverse impacts                | Some beneficial effects   | Some beneficial<br>effects                                 |

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## SECTION III: AFFECTED ENVIRONMENT

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### **Introduction**

This section provides a description of the existing environment in the project area and the resources that could be affected by implementing the proposed alternatives. Complete and detailed descriptions of the environment and existing use at Lake Mead NRA is found in the *Lake Mead NRA Resource Management Plan* (NPS 1986), the *Lake Mead NRA General Management Plan* (NPS 1986), and the *Lake Mead NRA Lake Management Plan* (NPS 2002).

### **Location and General Description of Lake Mead NRA and the Project Area**

Lake Mead NRA was designated as the first NRA in 1964. Lake Mead NRA is located in southern Nevada and northwestern Arizona, about 20 miles southeast of Las Vegas, Nevada, and about 5 miles north of Bullhead City, Arizona, and Laughlin, Nevada. It consists of two large reservoirs (Lakes Mead and Mohave) formed by the Colorado River. The recreation area is approximately 1.5 million acres in size, with about 87 percent of that acreage being terrestrial resources. About 60% of the total acreage is within the state of Arizona, in Mohave County, and 40% of the total acreage is in the state of Nevada, in Clark County.

Lake Mead NRA users include boaters, swimmers, fishermen, hikers, photographers, roadside sightseers, backpackers, and campers. Recreation visits in 1999 totaled just over nine million.

The project area is located in the southern portion of the recreation area, near Lake Mohave, just north of the Katherine Landing developed area and south of the Princess Cove Launch Ramp. Katherine Landing is one of the closest developed recreation areas to the cities of Laughlin, Nevada, and Bullhead City and Kingman, Arizona. It also serves as a primary recreational access point to the recreation area for boaters from California and other parts of Arizona. Katherine Landing is one of the busiest access points in the recreation area. Approximately 67% of the boaters access Lake Mohave at Katherine. In 2001, visitation to Katherine Landing was over one million, and visitation to South Telephone Cove was approximately 34,655 visitors, based on traffic counters.

Katherine Landing has a concession-operated café; lounge; marina; motel; boat, houseboat, and personal watercraft rental facilities; boat and motor repair facilities; a trailer village; RV sites; auto and boat gas; stores; restrooms; showers and laundry facilities; concession housing; and dry boat storage. The National Park Service facilities at Katherine Landing include a boat ramp, restrooms, visitor contact station, campground, housing area, fish cleaning station, and long- and short-term parking lots.

### **Natural Resources**

The project area is characteristic of the Mojave Desert, with low precipitation (averaging 8 to 23 centimeters per year [3 to 9 inches per year]), low humidity, and wide extremes in

daily temperatures. Winters are relatively short and mild, and summers are long and hot. The prevailing wind direction is from the south.

Geology, Topography, and Soils. The majority of Lake Mead NRA is characterized by generally north-south trending mountain ranges separated by broad, shallow valleys. The project area is located in the bajada and washes adjacent to the Black Mountains, on the Arizona side of Lake Mohave. Soils range from sandy to gravelly in the project area.

Vegetation. Vegetation type in the project area is a creosotebush-bursage shrubland (Figure 6). Vegetation along the existing access road is a desert wash community, and includes cheesebush (*Hymenoclea salsola*), catclaw (*Acacia greggi*), and brittlebush (*Encelia farinosa*). A full description of the vegetation in the project area is included in Appendix B.

Wildlife. Wildlife in the project area consists of small mammals, reptiles, and birds typical of the Mojave Desert ecosystem.

Special Status Species. The NPS consulted the most recent listing of Endangered, Threatened, and Candidate Species prepared by the USFWS (Appendix A). No endangered, threatened or candidate species are located in the project area, therefore there would be no effect to these species. There are no federally listed plant species known to occur in the recreation area. The following sensitive species are present or potentially present in the project area according to recent plant surveys (Appendix B): rush milkweed (*Asclepias subulata*) and Ajo lily (*Hesperocallis undulata*).

Water Resources. The alternative road locations are adjacent to a desert wash, and nearby Lake Mohave (Figure 7). The wash is typically dry, although it is subject to seasonal flash flooding, primarily in the late summer and early fall months. There are no springs or wetlands in the project area.

Air Quality. Lake Mead NRA is designated as a Class II air quality area, and air quality in the region is generally good. Most reductions in air quality are due to air flows from the Laughlin area, primarily emissions from the Mojave Generating Station and dust from construction activities.

Soundscapes. Noise-sensitive receptors are those locations where activities that could be affected by increased noise levels occur and include locations such as residences, motels, churches, schools, parks, and libraries. Existing noise levels are determined for the outdoor living area at sensitive receptors. There are no sensitive receptors in the project area, other than Lake Mead NRA. The dominant noise source in the project area is automobile traffic on Princess Cove Road and the South Telephone Cove Access Road, and motorized vessel traffic on Lake Mohave.

Figure 6. Typical Plant Life in Project Area



Figure 7. Desert Wash at South Telephone Cove



## **Cultural Resources**

### Historic Overview: Prehistory

Archeologists have identified a series of Native American cultures that have occupied Lake Mead National Recreation Area and adjacent areas in southern Nevada and Western Arizona over the last 12,000 to 13,000 year. These cultures have been divided into discrete time periods based on various criteria, i.e. changes in technology, the types of animal and plant foods used, or the migration of peoples into and out of the area.

Occupation of the area began at the end of the late Pleistocene around 12,000 to 13,000 years ago with the Paleoindian period. The Paleoindian period lasted into the Holocene and ended around 7,000 before present (BP). The Pleistocene was dominated by greater rainfall and moderate temperature, which created an environment of vast lakes and humid conditions. During the Paleoindian period of the early Holocene, the environment was characterized by a general trend to warmer and dryer conditions. Paleoindian peoples lived in small, highly nomadic groups, utilized wild plant foods, and hunted now extinct big game. Physical remains from the Paleoindian period usually consist of flaked stone tools and the by products of tool manufacture, e.g. flakes and spent cores.

The Archaic period (7,000 to 2,000 [BP]) is characterized by nomadic peoples living in small groups adapted to the mosaic of microenvironments created by the overall warmer and dryer conditions. Their subsistence was based on gathering wild plant foods and hunting small game. Flaked stone tools and the by-products of tool manufacture, along with the common occurrence of ground stone artifacts, typify the Archaic period.

The arrival of Anasazi peoples from the east marked the end of the Archaic period and the beginning of the Saratoga Springs period. The Saratoga Springs period (2,000 to 750 BP) was dominated by the expansion of the Virgin Anasazi into the Lake Mead area, and their eventual withdrawal. The Virgin Anasazi were Puebloan peoples who used pottery and lived in permanent structures, which changed from pithouses to above-ground Puebloan-type room structures. They practiced some horticulture but still depended heavily on wild plant and animal foods.

The Late Prehistoric lifeway, which began around 750 BP, was similar to Archaic adaptations. The people lived in small mobile groups, gathered wild plant foods, and hunted small game. They also practiced small scale horticulture. Archaeologically, these people are indistinguishable from the Mojave, Quechan, Hualapai, and Havasupai (Yuman-speaking peoples) and the Southern Paiute (Numic-speaking peoples) who occupied the area during the Historic period.

### Euro-American History in the Katherine Area

The Spanish and later the Mexicans were the first whites to explore the area. Spanish explorer, Melchor Diaz, discovered the Katherine area in 1540. In 1776, Father Garces crossed the Colorado River here. From 1852 to 1909, steamboats made regular trips up the Colorado River from Port Isabel in the Gulf of California. These sternwheeler river boats played an important part in the early development of the areas bordering the

Colorado River. In October, 1857, a caravan of 28 camels crossed the Colorado River below the present Bullhead City. Lieutenant Edward F. Beale was testing camels for desert travel for the War Department.

The Katherine Gold Mine was discovered in 1900 and operated intermittently through the 1930s. The mine and, subsequently, the surrounding area, were named for the sister of one of the discoverers.

In 1902, the lower Colorado River was surveyed to identify potential dam sites and one of these sites was later selected as the location for Davis Dam. Construction of Davis Dam began in 1942 but was discontinued in December of that year due to the United States' entry into World War II. Construction resumed in April 1946, and the dam was completed in 1953. Davis Dam is managed by the Bureau of Reclamation and provides the regulation of the Colorado River below Hoover Dam and facilitates water delivery to Mexico, as required by treaty.

### **Socioeconomic Resources, Visitor Use, and Park Operations**

Tourism is an important component of the region surrounding Lake Mead NRA, and much of the tourism revolves around the gaming industry. The recreation area provides a valuable resource to the area, contributing to the local economy through the sale and rental of boats and other water-related equipment, and other recreational equipment and services. It is estimated that the total annual impact of the recreation area on the gateway communities in the region is in the millions of dollars.

South Telephone Cove caters mostly to families that seek leisure at the shoreline and picnic area. The shoreline at South Telephone Cove offers an ideal and safe place for persons to recreate because the beach surface is sandy, the slope into the water is very gradual, and boat and personal watercraft launching is not permitted at this area. The amenities at South Telephone Cove include a picnic area, with tables, grills and shade structures, two restrooms, trash receptacles, and paved parking. The picnic area is frequently utilized because the area is large enough to accommodate many families simultaneously. Two of the picnic sites are handicapped accessible.

The South Telephone Cove access road is designated as a Class I Access Road under the Lake Mead NRA parkwide backcountry road standards. Class I roads are maintained by the National Park Service roads and trail crew at least twice per year. South Telephone Cove road currently requires more maintenance due to the nature of the road bed and the location of the road in an active wash. Park rangers and maintenance crews periodically must provide assistance to visitors who are unable to drive their vehicles through the sandy portions of the road.

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## **SECTION IV: ENVIRONMENTAL CONSEQUENCES**

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### **Introduction**

This section presents the likely beneficial and adverse effects to the natural and human environment that would result from implementing the alternatives under consideration. This section describes short-term and long-term effects, direct and indirect effects, cumulative effects, and the potential for each alternative to impair park resources. Interpretation of impacts in terms of their duration, intensity (or magnitude), and context (local, regional, or national effects) are provided where possible.

### **Methodology**

This section contains the environmental impacts, including direct and indirect effects and their significance to the alternatives. It also assumes that the mitigation and monitoring measures section of this EA would be implemented under any of the applicable alternatives, as identified in each mitigation criteria.

Impact analyses and conclusions are based on NPS staff knowledge of resources and the project area, review of existing literature, and information provided by experts in the NPS or other agencies. Any impacts described in this section are based on preliminary design of the alternatives under consideration. Effects are quantified where possible; in the absence of quantitative data, best professional judgment prevailed.

### **Criteria and Thresholds for Impact Analysis**

The following are laws, regulations, and/ or guidance that relates to the evaluation of each impact topic.

### ***Soils and Vegetation***

Laws, Regulations, and Policies: NPS Management Policies (4.8) stipulates that the NPS will preserve and protect geologic resources as integral components of park natural systems. Geologic resources includes geologic features and geologic processes. The fundamental policy, as stated in the NPS Natural Resources Management Guideline (NPS-77) is the preservation of the geologic resources of parks in their natural condition whenever possible.

Soil resources would be protected by preventing or minimizing adverse potentially irreversible impacts on soils, in accordance with NPS Management Policies. NPS-77 specified objectives for each management zone for soil resources management. These management objectives are defined as: (1) natural zone- preserve natural soils and the processes of soil genesis in a condition undisturbed by humans; (2) cultural zone- conserve soil resources to the extent possible consistent with maintenance of the historic and cultural scene and prevent soil erosion wherever possible; (3) park development zone- ensure that developments and their management are consistent with soil limitations and soil conservation practices; and, (4) special use zone- minimize soil loss and

disturbance caused by special use activities, and ensure that soils retain their productivity and potential for reclamation.

Zones within the recreation area have been designated in the Lake Mead NRA General Management Plan, which provides the overall guidance and management direction for Lake Mead NRA.

The NPS Organic Act directs the park to conserve the scenery and the natural objects unimpaired for future generations. NPS *Management Policies* defines the general principles for managing biological resources as maintaining all native plants and animals as part of the natural ecosystem. When NPS management actions cause native vegetation to be removed, then the NPS will seek to ensure that such removals will not cause unacceptable impacts to native resource, natural process, or other park resources.

Exotic species, also referred to as non-native or alien, are not a natural component of the ecosystem. They are managed, up to and including eradication, under the criteria specified in *Management Policies* and NPS-77.

Impact Indicators, Criteria, and Methodology: The following impact thresholds were established for the project area.

- *Negligible impacts:* Impacts have no measurable or perceptible changes in soil structure and occur in a relatively small area. Impacts have no measurable or perceptible changes in plant community size, integrity, or continuity.
- *Minor impacts:* Impacts are measurable or perceptible, but localized in a relatively small area. The overall soil structure would not be affected. Impacts are measurable or perceptible and localized within a relatively small area. The overall viability of the plant community would not be affected and, if left alone, would recover.
- *Moderate impacts:* Impacts would be localized and small in size, but would cause a permanent change in the soil structure in that particular area. Impacts would cause a change in the plant community (e.g. abundance, distribution, quantity, or quality); however, the impact would remain localized.
- *Major impacts:* Impact to the soil structure would be substantial, highly noticeable, and permanent. Impacts to the plant community would be substantial, highly noticeable, and permanent.
- *Impairment:* For this analysis, impairment is considered a permanent change in a large portion of the overall acreage of the park. The impact would contribute substantially to the deterioration of the park's native vegetation. These resources would be affected over the long-term to the point that the park's purpose (Enabling Legislation, *General Management Plan*, *Strategic*

*Plan*) could not be fulfilled and resource could not be experienced and enjoyed by future generations

### ***Wildlife and Wildlife Habitat***

Laws, Regulations, and Policies: The NPS Organic Act, which directs parks to conserve wildlife unimpaired for future generations, is interpreted by the NPS to mean native animal life should be protected and perpetuated as part of the recreation area's natural ecosystem. Natural processes are relied on to control populations of native species to the greatest extent possible. The restoration of native species is a high priority. Management goals for wildlife include maintaining components and processes of naturally evolving park ecosystems, including natural abundance, diversity, and ecological integrity of plants and animals.

The recreation area also manages and monitors wildlife cooperatively with the Arizona Game and Fish department and the Nevada Division of Wildlife.

Impact Indicators, Criteria, and Methodology: The impacts of wildlife were evaluated in terms of impacts to individual animals and wildlife habitat. Specific localized impacts were estimated based on knowledge garnered from similar past activities.

The following are standards used by the NPS in interpreting the level of impact to wildlife:

- *Negligible impacts:* No species of concern is present; no impacts or impacts with only temporary effects are expected.
- *Minor impacts:* Nonbreeding animals of concern are present, but only in low numbers. Habitat is not critical for survival; other habitat is available nearby. Occasional flight responses by wildlife are expected, but without interference with feeding, reproduction, or other activities necessary for survival.
- *Moderate impacts:* Breeding animals of concern are present; animals are present during particularly vulnerable life-stages, such as migration or winter; mortality or interference with activities necessary for survival expected on an occasional basis, but not expected to threaten the continued existence of the species in the park.
- *Major impacts:* Breeding animals are present in relatively high numbers, and/or wildlife is present during particularly vulnerable life stages. Habitat targeted by actions has a history of use by wildlife during critical periods, but there is suitable habitat for use nearby. Few incidents of mortality could occur, but the continued survival of the species is not at risk.
- *Impairment:* The impact would contribute substantially to the deterioration of natural resources to the extent that the park's wildlife and habitat would no

longer function as a natural system. Wildlife and its habitat would be affected over the long-term to the point that the park's purpose (Enabling Legislation, *General Management Plan*, *Strategic Plan*) could not be fulfilled and resource could not be experienced and enjoyed by future generations.

### *Air Quality*

Laws, Regulations, and Policies: Air pollution sources within parks must comply with all federal, state, and local regulations. The regulations and policies that govern pollutants of concern are discussed briefly below.

Lake Mead NRA is designated as a Class II Air Quality area under the Clean Air Act. The main purpose of this act is to protect and enhance the nation's air quality to promote the public health and welfare. The act establishes specific programs to provide protection for air resources and values, including the program to prevent significant deterioration of air quality in clean air regions of the country. Although Lake Mead NRA is designated as a Class II Air Quality area, the park strives to maintain the highest air quality standards, and project work within the recreation area is completed in accordance with regional standards. However, the recreation area does not possess sufficient autonomous authority to address issues of air quality improvements when air pollution originates outside the boundaries.

*NPS Management Policies* direct parks to seek to perpetuate the best possible air quality to preserve natural and cultural resources, sustain visitor enjoyment, human health, and preserve scenic vistas (4.7). Parks are directed to comply with all federal, state, and local air quality regulations and permitting requirements. In cases of doubt as to the impacts of existing or potential air pollution on park resources, the NPS "will err on the side of protecting air quality and related values for future generations."

Impact Indicators, Criteria, and Methodology: Information from the literature was used to assess probable impacts to air quality. There are four impact categories relevant to air quality issues: negligible, minor, moderate and major. Each category is discussed below relative to potential airborne pollution impacts from the alternatives on park resources and human health.

- *Negligible impacts:* There is no smell of exhaust and no visible smoke. Dust from construction activities can be controlled by mitigation.
- *Minor impacts:* There is a slight smell of exhaust and smoke is visible during brief periods of time. Dust from use the dirt roads is visible during brief periods. Dust from construction activities is visible only during the work period, but most can be controlled by mitigation.
- *Moderate impacts:* There is a smell of gasoline fumes and exhaust in high-use areas. Smoke is visible during periods of high use. Dust from the use of dirt roads is visible for an extended area. Dust from construction activities is

visible for an extended area for an extended period, but is reduced by mitigation.

- *Major impacts:* Smoke and gasoline fumes are easily detectable for extended periods of time in a large area. Dust from the use of dirt roads and construction activities is visible for an extended period for an extended amount of time, and mitigation is unable to alleviate the conditions.

### ***Cultural Resources***

Laws, Regulations, and Policies: Numerous legislative acts, regulations, and NPS policies provide direction for the protection, preservation, and management of cultural resources on public lands. Further, these laws and policies establish what must be considered in general management planning and how cultural resources must be managed in future undertakings resulting from the approved plan regardless of the final alternative chosen. Applicable laws and regulations include the NPS Organic Act (1916), the Antiquities Act of 1906, the National Historic Preservation Act of 1966 (1992, as amended), the National Environmental Policy Act of 1969, the National Parks and Recreation Act of 1978, the Archeological Resources Protection Act of 1979, the Native American Graves Protection and Repatriation Act of 1990, Executive Order 13007 Indian Sacred Sites (1996), and the Curation of Federally Owned and Administered Archeological Collections (1991).

Applicable agency policies relevant to cultural resources include Chapter 5 of NPS *Management Policies*, and the *Cultural Resource Management Guideline (DO-28)*, as well as other related policy directives such as the NPS *Museum Handbook*, the NPS *Manual for Museums*, and *Interpretation and Visitor Services Guidelines (NPS-26)*.

The Antiquities Act of 1906 (P.L. 209) authorized the president to establish historic landmarks and structures as monuments owned or controlled by the U.S. government and instituted a fine for unauthorized collection of their artifacts.

The NPS Organic Act (16 USC 1-4) established the agency to manage the parks and monuments with the purpose of conserving historic objects within them and providing for their enjoyment.

The National Historic Preservation Act of 1966 (NHPA; 16 USC 470, et seq.) requires in section 106 that federal agencies with direct or indirect jurisdiction over undertakings take into account the effect of those undertakings on properties that are listed on, or eligible for listing on, the National Register of Historic Places. Section 110 of the act further requires federal land managers to establish programs in consultation with the state historic preservation office to identify, evaluate, and nominate properties to the national register. This act applies to all federal undertakings or projects requiring federal funds or permits.

The National Environmental Policy Act of 1969 (NEPA; P.L. 91-190) sets forth federal policy to preserve important historic, cultural, and natural aspects of our national heritage

and accomplishes this by assisting federal managers in making sound decisions based on an objective understanding of the potential environmental consequences of proposed management alternatives. This act applies to any federal project or other project requiring federal funding or licensing. This act requires federal agencies to use a systematic, interdisciplinary approach integrating natural and social sciences to identify and objectively evaluate all reasonable alternatives to a proposed action.

The National Parks and Recreation Act of 1978 (P.L. 95-625) requires that general management plans be developed for each unit in the national park system and that they include, among other things, measures for the preservation for the area's resources and an indication of the types and intensities of development associated with public use of a given unit.

The Archeological Resources Protection Act of 1979 (16 USC 470aa-mm) further codifies the federal government's efforts to protect and preserve archeological resources on public lands by stiffening criminal penalties, as well as instituting civil penalties, for the unauthorized collection of artifacts. Additionally, it establishes a permit system for the excavation and removal of artifacts from public lands, including their final disposition, as well as confidentiality provisions for sensitive site location information where the release of such information may endanger the resource.

The Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) sets forth procedures for determining the final disposition of any human remains, funerary objects, or objects of cultural patrimony that are discovered on public lands or during the course of a federal undertaking.

EO 13007, Indian Sacred Sites, 1996 (61 FR 26771) instructs all federal land management agencies, to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and to avoid adversely affected the physical integrity of such sacred sites.

"The Curation of Federally Owned and Administered Archeological Collections" (36 CFR 79) establishes guidelines and procedures for the proper curation and management of archeological collections owned or administered by federal agencies.

Impact Indicators, Criteria, and Methodology: Impacts on cultural resources were developed based on existing conditions, current regulations, and likely development trends. The inventory of archaeological resources in the park is largely incomplete. For purposes of assessing impacts, all unrecorded resources are considered potentially eligible for listing on the National Register of Historic Places.

The park's inventory of standing structures and cultural landscapes is relatively complete, however, many structures and landscapes still require evaluation to determine their eligibility for listing on the National Register of Historic Places. For purposes of

assessing potential impacts to these properties, unevaluated structures and landscapes are assumed to be potentially eligible.

Under section 106, only historic resources that are eligible or are listed on the National Register of Historic Places are considered for impacts. An impact, or effect, to a property occurs if a proposed action would alter in any way the characteristic that qualify it for inclusion on the register. If the proposed action would diminish the integrity of any of these characteristics, it is considered to be an adverse effect.

For the purposes of this document, the level of impacts to cultural resources was accomplished using the following criteria:

- *Negligible impacts*: No potentially eligible or listed properties are present; no direct or indirect impacts.
- *Minor impacts*: Potentially eligible or listed properties are present; no direct impacts or impacts with only temporary effects are expected.
- *Moderate impacts*: Potentially eligible or listed properties are present; indirect impacts or, in the case of structures, where activity is limited to rehabilitation conducted in a manner that preserves the historical and architectural value of the property.
- *Major impacts*: Potentially eligible or listed properties present; direct impacts including physical destruction, damage, or alternation of all or part of a property. Isolation of a property from or alteration of the character of a property's setting when that character contributes to its eligibility, including removal from its historic location. Introduction of visual, audible, or atmospheric elements that are out of character with the property of alter its setting. Neglect of a property resulting in its deterioration or destruction (36 CFR 800.5).
- *Impairment*: Loss, destruction, or degradation of a cultural property, resource, or value to the point that it negatively affects the park's purpose and visitor experience.

In the absence of quantitative data concerning the full extent of actions under a proposed alternative, best professional judgement prevailed.

#### **Criteria and Thresholds for Impact Analyses of all Other Issues**

Impacts to water resources, soundscapes, visual resources, public safety, visitor use and experience, and park operations were analyzed using the best available information and best professional judgment of park staff.

Terms referring to impact intensity, context, and duration are used in the effects analysis. Unless otherwise stated, the standard definitions for these terms are as follows:

- *Negligible impacts:* The impact is at the lower level of detection; there would be no measurable change.
- *Minor impacts:* The impact is slight but detectable; there would be a small change.
- *Moderate impacts:* The impact is readily apparent; there would be a measurable change that could result in a small but permanent change.
- *Major impacts:* The impact is severe; there would be a highly noticeable, permanent measurable change.
- *Localized Impact:* The impact occurs in a specific site or area. When comparing changes to existing conditions, the impacts are detectable only in the localized area.
- *Short-Term Effect:* The effect occurs only during or immediately after implementation of the alternative.
- *Long-Term Effect:* The effect could occur for an extended period after implementation of the alternative. The effect could last several years or more and could be beneficial or adverse.

## **IMPAIRMENT ANALYSIS**

Impairment to park resources and values are analyzed in this section. Impairment is an impact that, in the professional judgement of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values. An impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is key to the cultural or natural integrity of the park or that is a resource or value needed to fulfill a specific purpose identifies in the enabling legislation. An impact would be less likely to constitute impairment if it is an unavoidable result that cannot be reasonably mitigated of an action necessary to preserve ore restore the integrity of park resources or values.

A determination of impairment is made in the “Conclusion” section of all natural and cultural resource impact topics of this document. Impairment statements are not required for recreational values/visitor experience or safety-related topics.

## **Cumulative Effects**

Cumulative effects are the direct and indirect effects of a proposed project alternative’s incremental impacts when they are added to other past, present, and reasonably foreseeable actions, regardless of who carries out the action (40 CFR Part 1508.7). Guidance for implementing NEPA (Public Law 91-190, 1970) requires that federal agencies identify the temporal and geographic boundaries within which they will evaluate

potential cumulative effects of an action and the specific past, present, and reasonably foreseeable projects that will be analyzed. This includes potential actions within and outside the recreation area boundary. The geographical boundaries of analysis vary depending on the impact topic and potential effects. While this information may be inexact at this time, major sources of impacts have been assessed as accurately and completely as possible, using all available data.

Specific projects or ongoing activities with the potential to cumulatively affect the resources (impact topics) evaluated for the project are identified below. Some impact topics would be affected by several or all of the described activities, while others could be affected very little or not at all. How each alternative would incrementally contribute to potential impacts for a resource is included in the cumulative effects discussion for each impact topic.

Population growth in the Las Vegas Valley and Laughlin/Bullhead City areas, and increases in area visitation is considered when analyzing the cumulative impacts of the proposed alternatives. Starting in the mid-1980s, annual population increases averaging nearly seven percent caused Las Vegas' population to almost double between 1985 and 1995, increasing from about 186,000 to 368,000, a 97% increase. At the same time, Clark County's population increased from 562,000 to 1,036,000, an increase of 84%. The July 2000 population estimate for Las Vegas was 482,874. The latest population prediction in the Las Vegas Valley is for two million people by 2005. Between 1990 and 1997, Laughlin population has increased 65% to 7,905. During the same period, Bullhead City population grew 21% to 27,173. As a region, the two communities have a combined population of 35,078, which constitutes a 29% increase since 1990.

With the predicted increases in population in the local area, and continuing visitation from California and Arizona, park visitation will continue to increase above the current 8 to 10 million visitors per year. The project site is located just north of one of the busiest developed areas of the recreation area. Katherine Landing visitation in 2001 was more than 1 million visitors. As capacity is reached at Katherine Landing, visitation is expected to spread to other nearby areas, including South Telephone Cove.

Human activities within the recreation area such as the construction, rehabilitation and maintenance of existing roads, parking lots, buildings, recreational facilities, and utility corridors have disturbed park resources in the past. In the Katherine Landing area, there are numerous backcountry roads, several utility corridors, parking lots, fence corridors, recreational facilities and buildings. There are also several mine sites near the project site that have permanently disturbed park resources and the biotic communities at the mine sites. Ongoing maintenance activities, such as road grading, can result in negligible impacts to park resources since the activities are confined to existing roads.

Human activities can disturb park resources presently and in the future. Illegal activities, such as illegal off-road vehicle use, can damage park resources, such as soils, vegetation, and cultural sites. The use of motorized vessels, including boats and personal watercraft, and park overflights, can impact the natural quiet and park soundscapes. Because South

Telephone Cove is located in an urban park setting, there is an expectation of human-caused noise by the visitor.

## **ALTERNATIVE A- NO ACTION**

### Soils and Vegetation

Alternative A would result in no change and no impacts to the vegetation in the project area, since no construction would occur under this alternative. Continued use of the existing road, along with periodic road grading, and occasional flooding, would erode desert wash soils and an adjacent to the road.

*Cumulative Effects:* Over time, with increased visitation likely in the South Telephone Cove area, the continual maintenance and use of the access road could result in increased erosion in the wash.

*Conclusion:* There would be no impact to vegetation. Soils would continue to erode in the wash area, causing minor impacts in a relatively small area. The impacts associated with the no-action alternative would not lead to impairment of soils and vegetation.

### Wildlife and Wildlife Habitat

There would be no impact to wildlife and wildlife habitat from construction activities under this alternative, since no construction would occur. The existing level of impact related to wildlife/vehicle collisions would continue into the future. This impact is considered negligible to minor since no species of concern is present and flight response behavior is expected without interference with activities necessary for survival.

*Cumulative Effects:* There would be no cumulative effects to wildlife under the no action alternative.

*Conclusion:* No impacts would occur from construction activities. There would be no cumulative impacts to wildlife and wildlife habitat from the no-action alternative. There would be no impairment to wildlife and wildlife habitat under the no-action alternative.

### Water Resources

Because no action would be taken in this alternative, there would be no change to direct or indirect impacts on water resources in the South Telephone Cove area. The South Telephone Cove Road would continue to have minor localized impacts on the desert wash flood hydrology due to the existence of the roadway in the wash. There could be negligible to minor impacts on water quality of South Telephone Cove due to run off during flash flooding.

*Cumulative Effects:* Visitation is likely to increase in the region, and this could increase visitation and traffic on the South Telephone Cove access road, adding to the potential for erosion during flood events. Impacts on the desert wash flood hydrology would continue. Overall, this impact would be negligible to minor as it would be at the lower level of detection when compared with existing conditions.

*Conclusion:* There would continue to be negligible to minor impacts to the water resources and desert wash in the South Telephone Cove area. There would be no impairment to park resources as a result of the impacts associated with this alternative.

#### Air Quality

Because no action would be taken under this alternative, there would be no change to air quality from existing conditions. Traffic on the existing road would continue to create minor impacts to air quality in a localized area from dust.

*Cumulative Effects:* Increased traffic due to predicted increases in visitation could lead to longer periods when dust is present.

*Conclusion:* There would be no change in air quality under the no-action alternative. There may be slight increases in dust as visitation in the area increases over time. There would be no impairment to air quality as a result of the impacts associated with the no-action alternative.

#### Cultural Resources

There would be no impact to cultural resources under this alternative.

*Cumulative Effects:* There would be no cumulative impacts to cultural resources under this alternative.

*Conclusion:* There would be no impact and no impairment to cultural resources under this alternative.

#### Soundscapes

There would be no change in existing conditions to the area soundscapes under this alternative. Traffic noises would continue to create negligible to minor impacts to the area soundscapes. There would be no noise from construction activities, but noise from maintenance activities would occur periodically.

*Cumulative Effects:* As traffic increases with the predicted increases in visitation, there would be increased noise in the South Telephone Cove area. However, because this area is located within a developed area, in an urban park setting, visitors have expectations of noise from traffic and motorized vessels on Lake Mohave. In the long-term, noise from motorized vessels on Lake Mohave could increase with the implementation of the *Lake Management Plan* that calls for the prohibition of two-stroke engines in 2012. Newer engine technology is reported to be quieter, and this could reduce the impacts to the soundscape from boats and other motorized vessels in the future. Therefore, the cumulative impact over time to the soundscape in this area is negligible to minor.

*Conclusion:* Negligible to minor impacts to area soundscapes would continue under this alternative. There would be no impairment to park resources as a result of this alternative.

### Visual Resources

There would be no impact to the area visual resources because no new road construction would occur.

*Cumulative Effects:* There would be no cumulative impact from this alternative.

*Conclusion:* There would be no impact and no impairment to the visual resources as a result of the no-action alternative.

### Public Safety, Visitor Use and Experience, and Recreation Area Operations

The no-action alternative would leave the road in its existing condition in the wash, which includes tight curves and sandy surfaces. Public safety would continue to be an issue due to the unsafe conditions on portions of the road. There would be no change to the visitor experience. Use would likely remain about the same. Maintenance personnel and equipment would continue to be utilized for the frequent repairs to the road. Maintenance and ranger staff would continue to assist visitors who get stuck in the sandy portions of the roadway.

*Cumulative Effects:* If predicted increases in visitation occur in the region, then more people would use the South Telephone Cove access road for lake access. Higher use could further deteriorate the roadway, and result in more accidents, more stuck vehicles and lead to a decrease in visitor satisfaction.

*Conclusion:* The no-action alternative could lead to minor to moderate long-term impacts to public safety, visitor use, and recreation area operations due to decreased visitor satisfaction, deteriorating road conditions, and increased need for maintenance activities and ranger patrols.

## **ALTERNATIVE B - Relocate Segment of Access Road to the North**

### Soils and Vegetation

Alternative B would impact 0.89 acres of previously undisturbed desert soil, and the vegetation located in the 1,500-foot segment of new road corridor. The vegetative community in the area primarily consists of creosotebush-bursage. One sensitive plant species, the Ajo lily (*Hesperocallis undulata*), exists on the northern project site. Individual plant species and their habitat would be impacted under this alternative. Mitigation, including topsoil salvage and replacement, would help restore staging areas and other areas disturbed during construction activities.

The 2,000-foot segment of old road would be closed under this alternative, and approximately 1.2 acres would be rehabilitated. Portions of the abandoned roadway would be rehabilitated using heavy equipment and seeding to establish native vegetation. Natural seeding would occur over time over the entire abandoned roadway, and eventually, no trace of the road would be present.

Exotic plant species are likely to invade the disturbance area, and could become established in the abandoned road corridor. Mitigation and monitoring would reduce this impact.

*Cumulative Effects:* No other road construction projects are anticipated in this area, therefore, no cumulative effects would occur to vegetation and soils from park construction activities. There is some off-road vehicle use in the local area, but that is primary from visitors trying to avoid the sandy spots on the existing road. Construction of the new road should reduce the impact from illegal off-road vehicle use.

*Conclusion:* Approximately 0.89 acres of soil and plants would be permanently modified due to road construction, including Ajo lily habitat. However, 1.2 acres of abandoned roadbed would be restored over time, creating a net gain of 0.31 acres of desert habitat and some beneficial effects. No impairment to soils and vegetation would occur as a result of the impacts associated with this alternative.

#### Wildlife and Wildlife Habitat

A 0.89-acre area of wildlife habitat would be permanently modified due to the construction of the new road segment. This impact is considered negligible since it is low quality habitat located in a development zone. In addition, 1.2 acres of desert wash habitat would eventually be restored under this alternative, creating a net gain of 0.31 acres.

The disturbance associated with human activities and construction activities would temporarily disturb and displace wildlife from the area during the project work. Wildlife mortality to small mammals and reptiles could occur from the use of heavy equipment. Small wildlife dens in the new road corridor would be destroyed.

There would be no change in the existing level of impacts related to wildlife/vehicle collisions.

*Cumulative Effects:* No other road construction projects are anticipated in this area, therefore, no cumulative effects would occur to wildlife and wildlife habitat from park construction activities. Continued maintenance of existing road, and vehicle traffic, and future increases in vehicle traffic is not likely to change the existing level of impacts related to wildlife/vehicle collisions.

*Conclusion:* There would be negligible to minor impacts due to disturbance associated with construction, direct mortality, and loss of habitat on the proposed realignment area. There would be no long-term negative impacts. There would be no impairment to wildlife and wildlife habitat from the impacts associated with this alternative.

#### Water Resources

The existing road would be moved out of the desert wash, and the area rehabilitated. Desert wash flood hydrology would be restored in the long-term and erosion should decrease through time. Mitigation including best management practices will prevent run-

off from the construction site, therefore, there would be no impact to the water resources of South Telephone Cove and Lake Mohave from construction activities.

*Cumulative Effects:* No additional construction is planned in the Katherine Landing area, however, erosion and run-off from existing facilities, roads, and parking lots can contribute sediments and pollutants to Lake Mohave. The cumulative effect of the preferred alternative should reduce this level of impact in the vicinity of the project site.

*Conclusion:* The desert wash resource would be restored in the long-term, creating beneficial impacts to park resources. There would be no impairment to water resources based on the impacts associated with this alternative.

#### Air Quality

There could be a slight increase in traffic on the access road due to improved conditions, thus slightly increasing the vehicular emissions. This would be most noticeable during the summer months, when the area is operating near or at capacity. However, the impact to air quality would remain minor and localized.

There would be impacts associated from construction activities, including the use of heavy equipment, exhaust, and soil disturbance activities. Mitigation would be utilized and these impacts are expected to be minor, occurring only during construction.

*Cumulative Effects:* Air quality around Lake Mohave is affected by a variety of internal and external sources, including powerplants, motor vehicle and vessel emissions, and dust from the use of backcountry roads. Increased traffic on the roadway could lead to increased dust conditions in the immediate area. This could lead to overall increases in particulate matter in the vicinity of the project, creating minor, yet long-term adverse impacts. The road aggregate should reduce this impact. Plus, winds are generally from the south during the summer, high-use months. Therefore the dust should disperse to the north of Katherine Landing. There are no other construction projects planned for this area. Long distance transport of pollutants would be unaffected by this alternative.

*Conclusion:* There would be minor, localized impacts to air quality from increased use of the road, particularly during the summer months. There would be short –term minor impacts to air quality from construction activities and use of heavy equipment. No impairment to air quality would occur as a result of the impacts associated with this alternative.

#### Cultural Resources

In 2001, this route was inventoried for cultural resources and none were found within the APE (Svinarich 2001). There would be no impact to cultural resources under this alternative

*Cumulative Effects:* There would be no cumulative impacts to cultural resources under this alternative.

*Conclusion:* There would be no impact and no impairment to cultural resources under this alternative.

### Soundscapes

The project area is located in an urban park setting, and the public expects some level of human-generated noise. Existing noise sources include vehicle traffic, air traffic, and motorized vessels. Construction noises would add to that existing level of noise, however, they would be minor and short-term, occurring only during construction. Traffic noise would remain in the area with the construction of the new road segment.

*Cumulative Effects:* Human-generated noise occurs in the project area in the form of motorized vessel use, vehicular traffic, and air traffic. This would not increase under this alternative. In the long-term, noise from motorized vessels on Lake Mohave could decrease with the implementation of the *Lake Management Plan* that calls for the prohibition of two-stroke engines in 2012. Newer engine technology is reported to be quieter, and this could reduce the impacts to the soundscape from boats and other motorized vessels in the future.

*Conclusion:* Under Alternative B, there would be minor, short-term increases in noise from construction activities during construction. Other human-generated noise will continue to occur, but could be reduced after 2012, creating negligible to minor impacts and a slight measurable change. There would be no impairment to the soundscape as a result of the impacts associated with this alternative.

### Visual Resources

The realignment under alternative B would disturb new acreage and create a visible road on the hillside. NPS design standards would be used to blend the road with the surrounding environment. In addition, the project area is located near existing access roads to Princess Cove, North Telephone Cove, and Cabinsite Cove. Therefore, visitors have some expectation of disturbance to the visual resource. Overall, this impact should be moderate because it would result in a permanent, measurable change to the visual resource.

*Cumulative Effects:* The project area is located in a development zone with existing and expected impacts to the visual resource from buildings, roads, parking lots, and utility corridors. This alternative would remove and rehabilitate a segment of the existing road, and replace it with a new segment of road in a nearby location. Thus there would be no cumulative impact from the relocation of the access road.

*Conclusion:* This impact would result in a measurable and permanent change to the visual resource, resulting in a moderate impact. Rehabilitation of the existing road segment would reduce this impact.

#### Public Safety, Visitor Use and Experience, and Recreation Area Operations

This alternative would improve public safety by removing a hazardous condition on the existing access road. Visitor use should increase slightly as all types of vehicles would be able to utilize the new road. The visitor experience would improve with improved access and less risk of accident. Maintenance activities on the road should return to the normal twice a year grading operation. Rangers and maintenance personnel would have less visitor assists in the area due to stuck vehicles. Overall conditions would improve.

*Cumulative Effects:* In the long-term, this alternative could result in higher use of the road and South Telephone Cove area, creating crowded conditions at the cove and shoreline area. Visitors in the Katherine area do have some expectations of crowded conditions, so visitor satisfaction is not likely to decrease.

*Conclusion:* Conditions would improve with the relocation of the road segment. Safety will improve as the road is moved out of the wash. Visitor use and experience should improve with improved access. Park operations would benefit from decreased maintenance and ranger activities in the area.

### **ALTERNATIVE C- Relocate Access Road to the South**

#### Soils and Vegetation

Alternative C would impact approximately 1.89 acres of both previously disturbed desert soil and previously undisturbed desert soil south of the existing access road. The vegetative community in the area consists primarily of creosotebush-bursage. One sensitive species, the rush milkweed, exists on the project site. The road realignment would destroy several rush milkweed (*Asclepias subulata*), and several silver cholla (*Opuntia echinocarpa*) and pencil cholla (*Opuntia ramosissima*). Mitigation, including topsoil salvage and replacement, and cactus salvage, would help restore staging areas and other areas disturbed during construction activities.

The entire portion of the old road would be closed under this alternative, and suitable portions would be rehabilitated, as directed by the NPS restoration specialist. Heavy equipment would be used, along with hand crews, to remove evidence of the old road. Some of the road would be left and natural processes would be relied on for its rehabilitation. Over time, natural seeding and flooding would restore the roadway.

Exotic plant species are likely to invade the disturbance area, and could become established in the abandoned road corridor. Mitigation and monitoring would reduce this impact.

*Cumulative Effects:* No other road construction projects are anticipated in this area, therefore, no cumulative effects would occur to vegetation and soils from park construction activities. There is some off-road vehicle use in the local area, but that is primary from visitors trying to avoid the sandy spots on the existing road. Construction of the new road should reduce the impact from illegal off-road vehicle use.

*Conclusion:* Approximately 1.89 acres of soil and plants, including sensitive rush milkweed habitat, would be permanently modified due to road construction creating minor to moderate adverse impacts. Approximately 1.56 acres of abandoned roadbed would be restored over time, creating a net loss of 0.33 acres of desert soil. No impairment to soils and vegetation would occur as a result of the impacts associated with this alternative.

#### Wildlife and Wildlife Habitat

Approximately 1,89 acres area of low quality wildlife habitat would be permanently modified due to the construction of the new access road. This impact is considered negligible since it is low quality habitat located in a development zone. In addition, 1.56 acres of desert wash habitat would eventually be restored under this alternative, creating a net loss of 0.33 acres.

The disturbance associated with human activities and construction activities would temporarily disturb and displace wildlife from the area during the project work. Wildlife mortality to small mammals and reptiles could occur from the use of heavy equipment. Small wildlife dens in the new road corridor would be destroyed.

There would be no change in the existing level of impacts related to wildlife/vehicle collisions.

*Cumulative Effects:* No other road construction projects are anticipated in this area, therefore, no cumulative effects would occur to wildlife and wildlife habitat from park construction activities. Continued maintenance of existing road, and vehicle traffic, and future increases in vehicle traffic is not likely to change the existing level of impacts related to wildlife/vehicle collisions.

*Conclusion:* There would be negligible to minor impacts due to disturbance associated with construction, direct mortality, and loss of habitat on the proposed realignment area. There would be no impairment to wildlife and wildlife habitat from the impacts associated with this alternative.

#### Water Resources

The existing road would be moved out of the desert wash, and the area rehabilitated. Desert wash flood hydrology would be restored in the long-term and erosion should decrease through time. Mitigation including best management practices will prevent run-off from the construction site, therefore, there would be no impact to the water resources of South Telephone Cove and Lake Mohave from construction activities.

*Cumulative Effects.* No additional construction is planned in the Katherine Landing area, however, erosion and run-off from existing facilities, roads, and parking lots can contribute sediments and pollutants to Lake Mohave. The cumulative effect of the preferred alternative should reduce this level of impact in the vicinity of the project site.

*Conclusion.* The desert wash resource would be restored in the long-term, creating beneficial impacts to park resources. There would be no impairment to water resources based on the impacts associated with this alternative.

#### Air Quality

There could be a slight increase in traffic on the new access road due to improved conditions, thus slightly increasing the vehicular emissions. This would be most noticeable during the summer months, when the area is operating near or at capacity. However, the impact to air quality would remain minor and localized.

There would be impacts associated from construction activities, including the use of heavy equipment, exhaust, and soil disturbance activities. Mitigation would be utilized and these impacts are expected to be minor, occurring only during construction.

*Cumulative Effects:* Air quality around Lake Mohave is affected by a variety of internal and external sources, including powerplants, motor vehicle and vessel emissions, and dust from the use of backcountry roads. Increased traffic on the roadway could lead to increased dust conditions in the immediate area. This could lead to overall increases in particulate matter in the vicinity of the project, creating minor, yet long-term adverse impacts. The road aggregate should reduce this impact. Plus, winds are generally from the south during the summer, high-use months. Therefore the dust should disperse to the north of Katherine Landing. There are no other construction projects planned for this area. Long distance transport of pollutants would be unaffected by this alternative.

*Conclusion:* There would be minor, localized impacts to air quality from increased use of the road, particularly during the summer months. There would be short-term minor impacts to air quality from construction activities and use of heavy equipment. No impairment to air quality would occur as a result of the impacts associated with this alternative.

#### Cultural Resources

In the 1970's, the Katherine area was inventoried for cultural resources and none were found in the APE for this route (Ervin 1986). There would be no impact to cultural resources under this alternative.

*Cumulative Effects:* There would be no cumulative impacts to cultural resources under this alternative.

*Conclusion:* There would be no impact and no impairment to cultural resources under this alternative.

#### Soundscapes

The project area is located in an urban park setting, and the public expects some level of human-generated noise. Existing noise sources include vehicle traffic, air traffic, and motorized vessels. Construction noises would add to that existing level of noise,

however, they would be minor and short-term, occurring only during construction. Traffic noise would remain in the area with the construction of the new road segment.

*Cumulative Effects:* Human-generated noise occurs in the project area in the form of motorized vessel use, vehicular traffic, and air traffic. This would not increase under this alternative. In the long-term, noise from motorized vessels on Lake Mohave could decrease with the implementation of the *Lake Management Plan* that calls for the prohibition of two-stroke engines in 2012. Newer engine technology is reported to be quieter, and this could reduce the impacts to the soundscape from boats and other motorized vessels in the future.

*Conclusion:* Under Alternative B, there would be minor, short-term increases in noise from construction activities during construction. Other human-generated noise will continue to occur, but could be reduced after 2012, creating negligible to minor impacts and a slight measurable change.

#### Visual Resources

The realignment under alternative C would disturb new acreage and create a visible road on the hillside where there is currently a powerline corridor. The powerline would have to be relocated, adding to the visual impact of this alternative. NPS design standards would be used to blend the road with the surrounding environment. In addition, the project area is located near existing access roads to Princess Cove, North Telephone Cove, and Cabinsite Cove. Therefore, visitors have some expectation of disturbance to the visual resource. Overall, this impact should be moderate because it would result in a permanent, measurable change to the visual resource.

*Cumulative Effects:* The project area is located in a development zone with existing and expected impacts to the visual resource from buildings, roads, parking lots, and utility corridors. This alternative would remove and rehabilitate a segment of the existing road, and replace it with a new segment of road in a nearby location. Thus there would be no cumulative impact from the relocation of the access road.

*Conclusion:* This impact would result in a measurable and permanent change to the visual resource, resulting in a moderate impact. Rehabilitation of the existing road segment would reduce this impact.

#### Public Safety, Visitor Use and Experience, and Recreation Area Operations

This alternative would improve public safety by removing a hazardous condition on the existing access road. Visitor use should increase slightly as all types of vehicles would be able to utilize the new road. The visitor experience would improve with improved access and less risk of accident. Maintenance activities on the road should return to the normal twice a year grading operation. Rangers and maintenance personnel would have less visitor assists in the area due to stuck vehicles. Overall conditions would improve.

*Cumulative Effects:* In the long-term, this alternative could result in higher use of the road and South Telephone Cove area, creating crowded conditions at the cove and shoreline

area. Visitors in the Katherine area do have some expectations of crowded conditions, so visitor satisfaction is not likely to decrease.

*Conclusion:* Conditions would improve with the relocation of the road segment. Safety will improve as the road is moved out of the wash. Visitor use and experience should improve with improved access. Park operations would benefit from decreased maintenance and ranger activities in the area.

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**SECTION V: COORDINATION AND CONSULTATION**

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A 30-day public scoping period occurred between November 6 and December 6, 2002, through a press release (Appendix C). No comments were received.

Public notice of the availability of this environmental assessment was published in local newspapers, and on the Lake Mead NRA Internet Web site (<http://www.nps.gov/lame>). Individuals and organizations could request the environmental assessment in writing, by phone, or by e-mail. The environmental assessment was circulated to various federal and state agencies, individuals, businesses, and organizations on the park's mailing list for a 30-day public review period. Copies of the environmental assessment were made available at area libraries.

A copy of the environmental assessment can be obtained by direct request to:

Resource Management Division, Compliance Branch  
National Park Service  
Lake Mead National Recreation Area  
601 Nevada Way  
Boulder City, Nevada 89005  
Telephone: (702) 293-8956  
Facsimile: (702) 293-8008

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## Appendix A

### U.S. Fish and Wildlife Service Listing of Threatened and Endangered Species

(accessed from <http://ifw2es.fws.gov/EndangeredSpecies/lists/ListSpecies.cfm> on January 8, 2003)

#### Mohave County

| <u>Common Name</u>             | <u>Scientific Name</u>  | <u>Listing Status</u> | <u>More Info</u>  |
|--------------------------------|---|-----------------------|-------------------|
| Arizona cliff-rose             | <i>Purshia subintegra</i>   | E                     | <a href="#">P</a> |
| bald eagle                     | <i>Haliaeetus leucocephalus</i>   | AD, T                 | <a href="#">P</a> |
| bonytail chub                  | <i>Gila elegans</i>   | E                     | <a href="#">P</a> |
| brown pelican                  | <i>Pelecanus occidentalis</i>   | DM, E                 | <a href="#">P</a> |
| California condor              | <i>Gymnogyps californianus</i>  | E, EXPN               | <a href="#">P</a> |
| desert tortoise                | <i>Gopherus agassizii</i>   | SAT, T                | <a href="#">P</a> |
| Fickeisen plains cactus        | <i>Pediocactus peeblesianus fickeiseniae</i>                                | C                     | <a href="#">P</a> |
| Holmgren milk-vetch            | <i>Astragalus holmgreniorum</i>   | E                     | <a href="#">P</a> |
| Hualapai Mexican vole          | <i>Microtus mexicanus hualpaiensis</i>                                      | E                     | <a href="#">P</a> |
| humpback chub                  | <i>Gila cypha</i>   | E                     | <a href="#">P</a> |
| Jones cycladenia               | <i>Cycladenia humilis</i> var. <i>jonesii</i>                               | T                     | <a href="#">P</a> |
| Mexican spotted owl            | <i>Strix occidentalis lucida</i>  | T                     | <a href="#">P</a> |
| razorback sucker               | <i>Xyrauchen texanus</i>  | E                     | <a href="#">P</a> |
| Siler pincushion cactus        | <i>Pediocactus</i> (= <i>Echinocactus</i> , = <i>Utahia</i> ) <i>sileri</i> | T                     | <a href="#">P</a> |
| southwestern willow flycatcher | <i>Empidonax traillii extimus</i>   | E                     | <a href="#">P</a> |
| Virgin River chub              | <i>Gila robusta seminuda</i>  | E                     | <a href="#">P</a> |
| western yellow-billed cuckoo   | <i>Coccyzus americanus occidentalis</i>                                     | C                     | <a href="#">P</a> |
| woundfin                       | <i>Plagopterus argentissimus</i>  | E, EXPN               | <a href="#">P</a> |
| Yuma clapper rail              | <i>Rallus longirostris yumanensis</i>                                       | E                     | <a href="#">P</a> |

E -- Endangered

T -- Threatened

EmE -- Emergency Listing, Endangered

EmT -- Emergency Listing Threatened

EXPE, XE -- Experimental Population, Essential

EXPN, XN -- Experimental Population, Non-Essential

SAE, E(S/A) -- Similarity of Appearance to an Endangered Taxon

SAT, T(S/A) -- Similarity of Appearance to a Threatened Taxon

PE -- Proposed Endangered

PT -- Proposed Threatened

PEXPE, PXE -- Proposed Experimental Population, Essential

PEXPN, PXN -- Proposed Experimental Population, Non-Essential

PSAE, PE(S/A) -- Proposed Similarity of Appearance to an Endangered Taxon

PSAT, PT(S/A) -- Proposed Similarity of Appearance to a Threatened Taxon

C -- Candidate Taxon, Ready for Proposal

D3A -- Delisted Taxon, Evidently Extinct

D3B -- Delisted Taxon, Invalid Name in Current Scientific Opinion

D3C -- Delisted Taxon, Recovered

DA -- Delisted Taxon, Amendment of the Act

DM -- Delisted Taxon, Recovered, Being Monitored First Five Years

DO -- Delisted Taxon, Original Commercial Data Erroneous

DP -- Delisted Taxon, Discovered Previously Unknown Additional Populations and/or Habitat

DR -- Delisted Taxon, Taxonomic Revision (Improved Understanding)

AD -- Proposed Delisting

AE -- Proposed Reclassification to Endangered

AT -- Proposed Reclassification to Threatened



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## APPENDIX B

### PLANT SURVEY

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#### Botanical Survey of South Telephone Cove Road Realignment

The survey was conducted on January 17, 2003 by Elizabeth Powell and Dianne Bangle. The proposed road site lies just north of the existing South Telephone Cove Road (STCR) on the side slope of the adjacent ridge. The following lists of species do not include annual species that are not visible at the time of year during which this site was surveyed. The relative abundance of the plants given in the following lists is related to the abundance on the site in question and not abundance in the park as a whole. Abundant means that the plant species is highly visible or a dominant plant on site. Common means the plant species is frequently encountered on site during the survey. Occasional means plant species found in a few to several places on site, but not commonly encountered. Uncommon means plant species found only in one or two places on site. Rare means plant species found in only one site and uncommon or rare to Lake Mead NRA.

The survey began off the existing South Telephone Cove Road near where the road turned west. We surveyed an approximate 30-foot corridor on the ridge and wash area just north of STCR. Initial vegetation type creosotebush-white bursage shrubland, soil gravelly. The following species predominate:

Creosotebush *Larrea tridentata* Shrub. Abundant and dominant.  
White bursage *Ambrosia dumosa* Shrub. Abundant and dominant.  
Sweetbush *Bebbia juncea* Shrub. Common.  
Cheesebush *Hymenoclea salsola* Shrub. Common.  
Suncup *Camissonia brevipes* Annual. Common.  
Smallseed sandmat *Chamaesyce polycarpa* Perennial herb. Common  
Cryptantha *Cryptantha sp.* Annual. Common.  
Brittlebush *Encelia farinosa* Shrub. Common.  
Desert trumpet *Eriogonum inflatum* Perennial herb. Common.  
Little trumpet *Eriogonum tricipes* Annual. Common.  
Mediterranean grass *Schismus sp.* Annual. Abundant. ALIEN.  
Spiny herb *Corizanthe rigida* Annual. Common.  
White rhatany *Krameria grayi* Shrub. Common.  
Lupine *Lupinus sp.* Annual. Common.  
Silver cholla *Opuntia echinocarpa* Perennial. Common.  
Pencil cholla *Opuntia ramosissima* Perennial. Common.  
Woolly plantain *Plantago ovata* Annual. Common.  
Tumbleweed *Salsola sp.* Annual. Common.

Where the soil became sandy the following plants were, also, noted:

Sahara mustard *Brassica tournefortii* Annual. Common.  
California mustard *Guillenia lasiophylla* Annual. Occasional.  
Fiddleneck *Amsinckia sp.* Annual. Occasional.  
Phacelia *Phacelia sp.* Annual. Common.  
Texas storksbill *Erodium texanum* Annual or biennial. Occasional.  
Catclaw acacia *Acacia greggii* Shrub. Common.  
Rush milkweed *Asclepias subulata* Shrub. Uncommon.

These species of plants are alien and invasive at Lake Mead NRA and were found within the project area:

Mediterranean grass *Schismus sp.* LAME-CP5  
Sahara mustard *Brassica tournefortii* LAME-CP2  
Tumbleweed *Salsola sp.* LAME-CP5

#### **Lake Mead Invasive Plant Control priority Status**

LAME-CP-1= Control priority 1 species- Highest priority for control, noxious, highly invasive, pernicious and difficult to control once established.

LAME-CP2= Control Priority 2 species- High priority for control, invasive and spreading.  
 LAME-CP3= Control priority 3 species- Watch species, potentially invasive.  
 LAME-CP4= Control Priority 4 species- Not much known about invasiveness of this species, does not appear to invade natural habitats, or occurs in low numbers.  
 LAME-CP5= Control priority 5 species, Widespread weed, out of control.

These species of rare and uncommon plants are present or potentially present within the project area:

Rush milkweed *Asclepias subulata* LAME- P5. Present.  
 Ajo lily *Hesperocallis undulata* Lame-P3. Potentially present.

#### **Lake Mead NRA Rare Plant Priority Status**

LAME-P1= Priority 1: Has status with State of Arizona, Nevada, or with Nevada Natural Heritage Program, Clark County MSHCP; BLM or other agency, globally or regionally rare and/or considered sensitive.

LAME-P2= Priority 2: Has no agency status, rare in Lake Mead NRA, occurs in only a very few locations and therefore, vulnerable in Lake Mead NRA.

LAME-P3= Priority 3: Has no agency or state status, uncommon in Lake Mead NRA, occurs in only a few locations and in restricted habitats and is therefore, vulnerable in Lake Mead NRA.

LAME-P4= Priority 4: Has no agency or state status, uncommon in Lake Mead NRA, occurs in only a few locations, but apparently not in restricted habitats.

LAME-P5= Priority 5: Apparently uncommon, but more information is needed about status, locations, habits, and ecology of this species in Lake Mead NRA.

LAME-P6= Priority 6: No known collections of this species in Lake Mead NRA, but if found would be considered rare or uncommon.

We surveyed an alternate site for the potential road. The alternate route would follow the already existing powerline road in addition to an area of undisturbed desert. We began this section at the parking area near the restrooms and walked along a wash then diverted up to the powerline road, where we continued until we reached the main road. Initially, the vegetation type was creosotebush–white bursage shrubland in sandy, gravelly soil. The following plants predominate:

Creosotebush *Larrea tridentata* Shrub. Abundant and dominant.  
 White bursage *Ambrosia dumosa* Shrub. Abundant and dominant.  
 Rush milkweed *Asclepias subulata* Shrub. Uncommon.  
 Sweetbush *Bebbia juncea* Shrub. Common.  
 Cheesebush *Hymenoclea salsola* Shrub. Common.  
 Suncup *Camissonia brevipes* Annual. Common.  
 Smallseed sandmat *Chamaesyce polycarpa* Perennial herb. Common  
 Cryptantha *Cryptantha sp.* Annual. Common.  
 Brittlebush *Encelia farinosa* Shrub. Common.  
 Desert trumpet *Eriogonum inflatum* Perennial herb. Common.  
 Little trumpet *Eriogonum tricipes* Annual. Common.  
 Mediterranean grass *Schismus sp.* Annual. Abundant. ALIEN.  
 Spiny herb *Corisanthe rigida* Annual. Common.  
 White rhatany *Krameria grayi* Shrub. Common.  
 Peppergrass *Lepidium sp.* Annual. Occasional.  
 Lupine *Lupinus sp.* Annual. Common.  
 Primrose *Oenothera sp.* Annual. Occasional.  
 Beavertail *Opuntia basilaris* Perennial. Occasional.  
 Silver cholla *Opuntia echinocarpa* Perennial. Common.  
 Pencil cholla *Opuntia ramosissima* Perennial. Common.  
 Woolly plantain *Plantago ovata* Annual. Common.  
 Tumbleweed *Salsola sp.* Annual. Common.

At the top of the ridge where we met up with the powerline road the soil became sandy and the following plants were noted:

Sandverbena *Abronia villosa* Annual. Occasional.

Redroot cryptantha *Cryptantha micrantha* Annual. Occasional.  
Spectaclepod *Dithyrea californica* Annual. Common.  
Ajo lily *Hesperocallis undulata* Perennial herb. Uncommon.  
Lupine *Lupinus sp.* Annual. Common.  
Desert primrose *Oenothera deltoides* var. *deltoides* Annual. Occasional.  
Sahara mustard *Brassica tournefortii* Annual. Common.

We have these concerns about these projects:

These road systems will be an avenue for the introduction of weedy species of plants into Lake Mead NRA.

This potential road realignment would destroy the rush milkweeds that we noticed in the area, as well as several pencil chollas and silver chollas.

The area surveyed is just north of a successful ajo lily community and could potentially destroy some of this species habitat.

In the alternate site (site 2) the potential road realignment would destroy several very old and large catclaw acacia. This route will severely damage a vulnerable population of ajo lilies.

Dianne Bangle  
Elizabeth Powell  
January 21, 2003



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**APPENDIX C**  
**NATIONAL PARK SERVICE PRESS RELEASE**

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**National Park Service**  
**U.S. Department of the Interior**

Lake Mead National  
Recreation Area

601 Nevada Way  
Boulder City, NV 89005

Phone: (702) 293-8947  
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## **Lake Mead National Recreation Area News Release**

**Date: November 7, 2002**  
**For Immediate Release**  
**Karla Norris, (702) 293- 8947**

**Release #: 096- 02**

### **Public Input Solicited for Projects at Lake Mead National Recreation Area**

Superintendent William K. Dickinson announced today that the National Park Service is currently soliciting input for several projects proposed at Lake Mead National Recreation Area. Public input is sought to develop feasible alternatives and formulate issues related to the following projects:

The rehabilitation of the Northshore Road, from mile marker 20.8 to 30.3  
Improvements to the Willow Beach, Arizona, waste water treatment facility  
Reconstruction of a picnic area at South Cove, Arizona  
Rehabilitation of the Roger's Spring picnic facility  
Extension of the River Mountain Loop Trail within the boundaries of the recreation area  
Placement of wayside exhibits along existing roadways in the recreation area  
Realignment of South Telephone Cove Road, Arizona.

The National Park Service will be analyzing these proposals in accordance with the National Environmental Policy Act (NEPA) of 1969. The projects will each be evaluated in separate environmental documents.

Written comments on the projects should be received by December 6, 2002. To submit written comments, or to be included on the project mailing list, please write to:  
Superintendent, Lake Mead National Recreation Area, Attention: Environmental Compliance Specialist, 601 Nevada Way, Boulder City, Nevada 89005.

For further information on any of the listed projects, please contact Environmental Compliance Specialist Nancy Hendricks at (702) 293- 8756.



